Basic, Applied and Action Research

Understanding research by purpose and real-world use

Lecture Slides

Basic, Applied and Action Research

A student-friendly guide to three major purposes of research: building knowledge, solving practical problems, and improving local practice.

Author: Muhammad Hassan

Website: ResearchMethod.net

Lecture Overview

OVERVIEW

What this lecture covers and how the ideas connect.

1

Research by purpose

Why researchers classify studies as basic, applied, or action-oriented.

2

Core features

Definitions, goals, questions, users, outputs, and settings.

3

Comparison and process

How to choose an appropriate research purpose and design.

4

Examples and practice

Discipline examples, a full scenario, activity, and knowledge check.

Big idea: research purpose shapes the question, design, audience, and practical outcome.

Learning Objectives

OBJECTIVES

By the end of this lecture, students should be able to:

1. Define basic, applied, and action research in clear academic language.
2. Distinguish the purpose, audience, design focus, and expected outputs of each type.
3. Match research questions to the most appropriate research purpose.
4. Explain how research purpose influences sampling, data collection, and analysis.
5. Evaluate advantages, limitations, and ethical issues across the three approaches.
6. Develop a simple research scenario using one or more of these research purposes.

Measurable outcomes

✓ **Explain**
Use accurate terms and examples.

↔ **Compare**
Identify similarities and differences.

⚙ **Apply**
Choose a suitable purpose for a study.

◉ **Evaluate**
Recognize strengths, limits, and ethics.

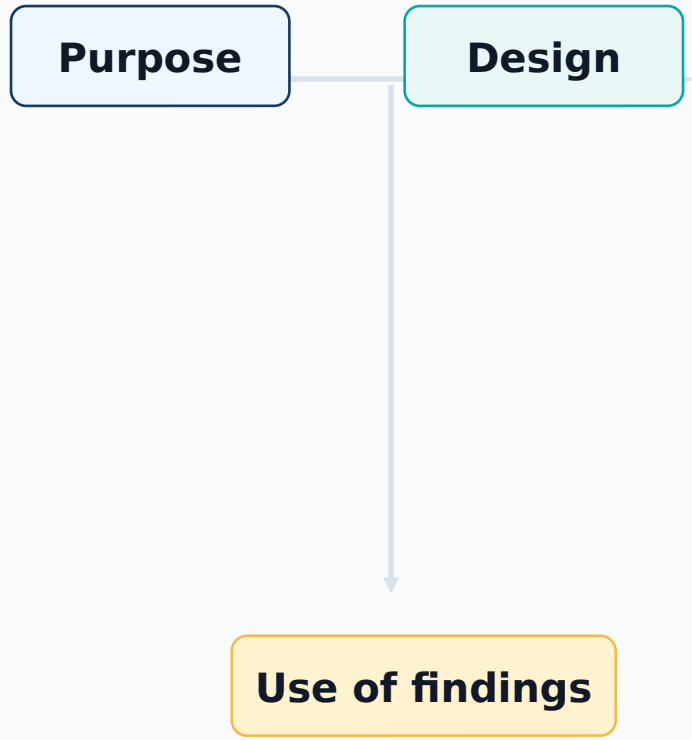
Introduction: Why Research Purpose Matters

Researchers often classify studies by purpose because the purpose explains why the study is being conducted and how the findings are expected to be used. The same topic can be studied in different ways depending on whether the goal is theory-building, problem-solving, or practice improvement.

1. Basic research
   Builds or tests knowledge and theory.

2. Applied research
   Uses knowledge to solve a practical problem.

3. Action research
   Improves practice in a specific local setting.



Purpose links the research question to methodological choices and expected impact.

Key Definitions

DEFINITIONS

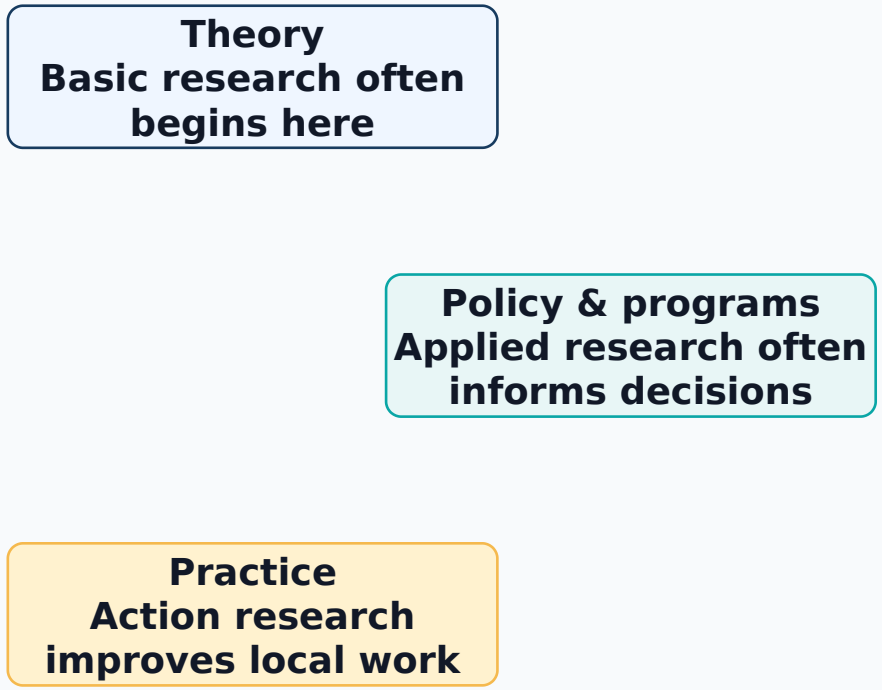
Term	Student-friendly meaning	Example cue
Basic research	Research aimed primarily at developing knowledge, theory, or explanation.	“Why does this happen?”
Applied research	Research aimed at solving a specific practical problem or informing decisions.	“What should we do about this?”
Action research	A participatory, cyclical inquiry used to improve practice in a local setting.	“How can we improve our own practice?”
Research purpose	The main reason a study is conducted and how findings are expected to be used.	Knowledge, solution, improvement
Context of use	The setting, people, organization, or community where findings may be applied.	Classroom, clinic, firm, community

Background and Academic Context

CONTEXT

The distinction between basic and applied research became important in research policy, funding, and university planning. Basic research is often associated with knowledge expansion, while applied research is associated with practical needs, innovation, professional practice, and public policy.

Action research developed strongly in education, community development, organizational change, health practice, and other fields where researchers and practitioners work together to improve local action.

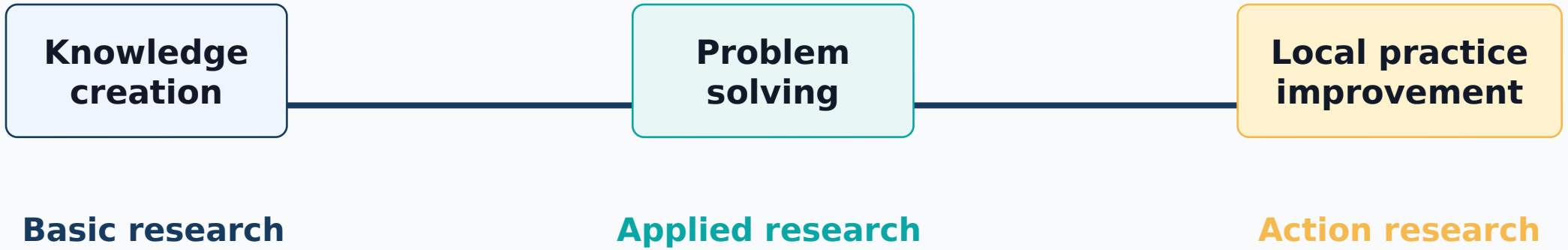


Academic research moves between knowledge, decision-making, and practice.

Main Concept: A Purpose-Based Continuum

CONCEPTS

Basic, applied, and action research can be understood as a continuum. Many real studies combine features of more than one purpose, but one purpose usually dominates the design.



Continuum does not mean “less rigorous” or “more rigorous”; it shows different intended uses.

Basic Research

TYPE 1

Research for understanding, theory development, and explanation.

Core features

- Primary aim is to expand knowledge or test theory.
- Often asks explanatory, theoretical, or mechanism-focused questions.
- Findings may not have immediate practical use.
- Common in universities, laboratories, and theoretical scholarship.

Typical outputs

- Conceptual models and theoretical explanations.
- Peer-reviewed articles, theses, and dissertations.
- Foundational knowledge for future applied work.
- New variables, constructs, or relationships to investigate.

Basic Research: Examples and Questions

TYPE 1

Discipline	Example basic research question	Possible contribution
Psychology	How does working memory influence complex problem solving?	Theory of cognition and learning
Sociology	How do social norms shape identity formation?	Conceptual explanation of social behavior
Biology	What cellular mechanisms regulate gene expression?	Foundational biological knowledge
Information technology	How does algorithmic bias emerge in model training?	Better theoretical understanding of AI systems
Education	How do motivation theories explain self-regulated learning?	Improved educational theory

Basic research usually asks “why,” “how,” or “what relationship exists?”

Applied Research

TYPE 2

Research for solving practical problems or supporting decisions.

Core features

- Begins with a real-world problem, need, policy issue, or organizational decision.
- Uses existing theory and evidence to design a useful study.
- Findings are expected to guide action, programs, products, or decisions.
- Often includes stakeholders, clients, practitioners, or decision-makers.

Typical outputs

- Evidence-based recommendations.
- Program, product, policy, or service improvements.
- Evaluation reports and decision briefs.
- Practical models that can be tested in similar settings.

Applied Research: Examples and Questions

TYPE 2

Field	Practical problem	Applied research question
Business	High customer churn	Which factors predict customer retention in subscription services?
Health sciences	Low vaccination uptake	Which communication strategy increases vaccine confidence in a community clinic?
Education	Low attendance	Which attendance intervention is most effective for first-year students?
IT	Cybersecurity incidents	Which training approach reduces phishing click rates among employees?
Public policy	Traffic congestion	How does a new bus route affect commute time and satisfaction?

Applied research usually asks “what works,” “what causes this problem,” or “which solution is better?”

Action Research

TYPE 3

Research with participants to improve local practice.

Action research is a form of inquiry in which researchers and participants work together to understand a problem, take action, observe results, and refine practice. It is especially common in education, organizational development, health practice, social work, and community settings.

Participatory
People affected by the issue help shape the inquiry.

Practical
The study aims to improve action in a real setting.

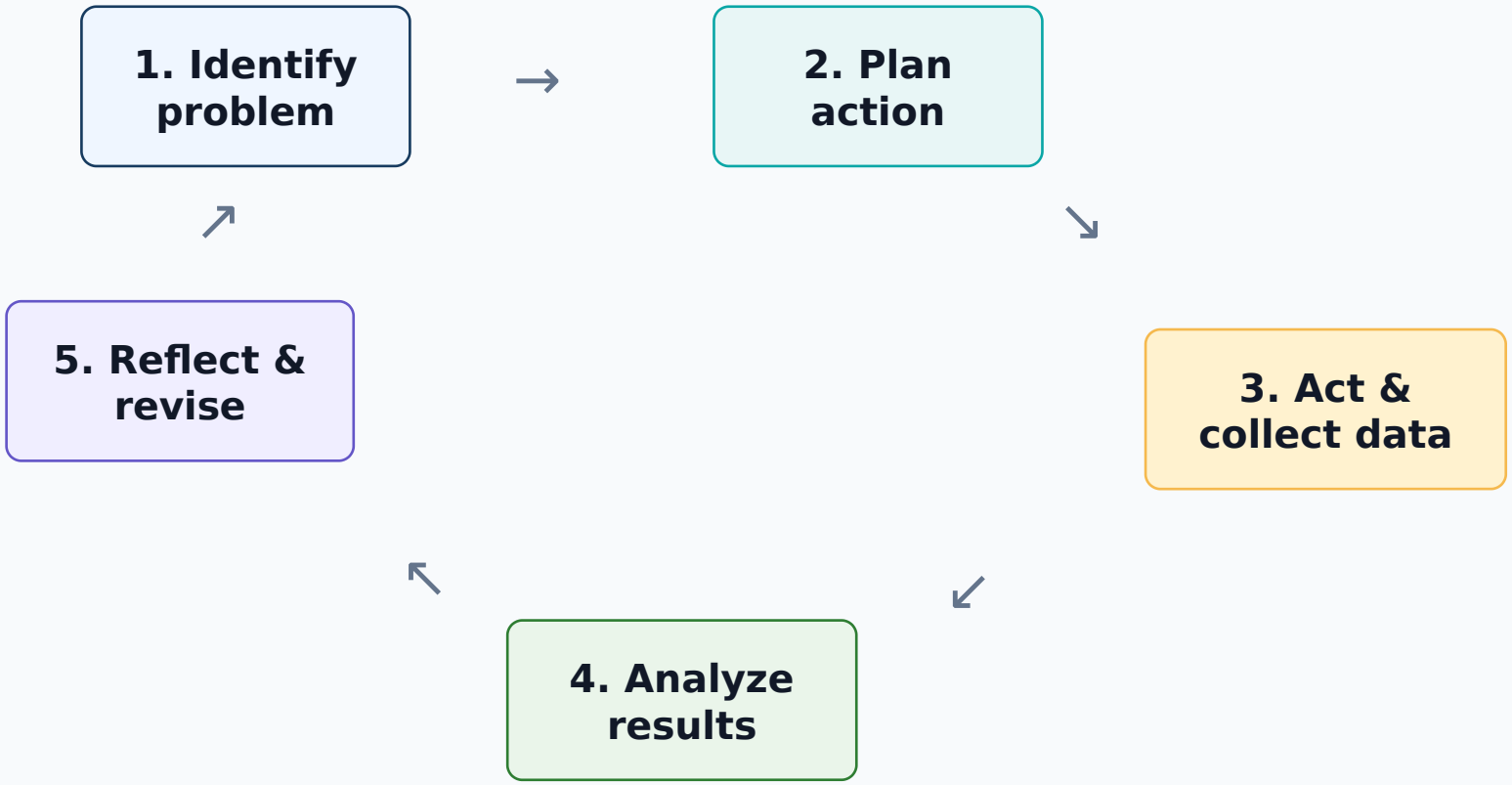
Cyclical
Planning, action, observation, and reflection repeat.

Action research is local and improvement-oriented, but it still requires systematic evidence.

The Action Research Cycle

PROCESS

A common sequence used to improve practice through evidence.



The cycle may repeat several times until the practice issue is better understood or improved.

Plan → Act → Observe → Reflect

Comparison Table: Basic vs Applied vs Action Research

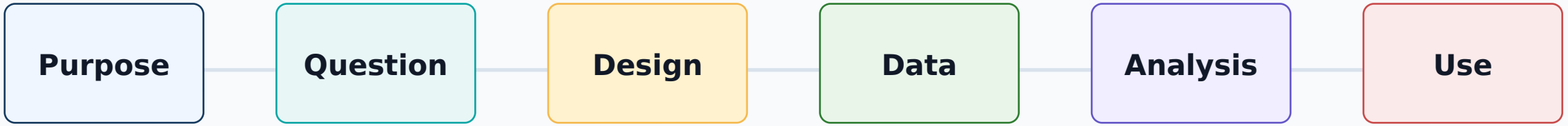
COMPARISON

Feature	Basic research	Applied research	Action research
Primary purpose	Develop knowledge or theory	Solve a practical problem	Improve local practice
Typical question	Why or how does this happen?	What solution or decision is best?	How can we improve our own setting?
Main users	Scholars and researchers	Practitioners, policymakers, managers	Participants and local practitioners
Setting	Often academic or laboratory	Real-world sectors and organizations	Specific classroom, clinic, team, community
Output	Theory, explanation, publication	Recommendation, model, intervention, evaluation	Action plan, reflection, practice change
Time horizon	Often long-term contribution	Short to medium-term usefulness	Immediate or iterative improvement

How Purpose Shapes Research Decisions

DESIGN LOGIC

The purpose of a study influences nearly every research decision. Researchers should align the question, participants, data collection, analysis, and reporting with the intended use of findings.

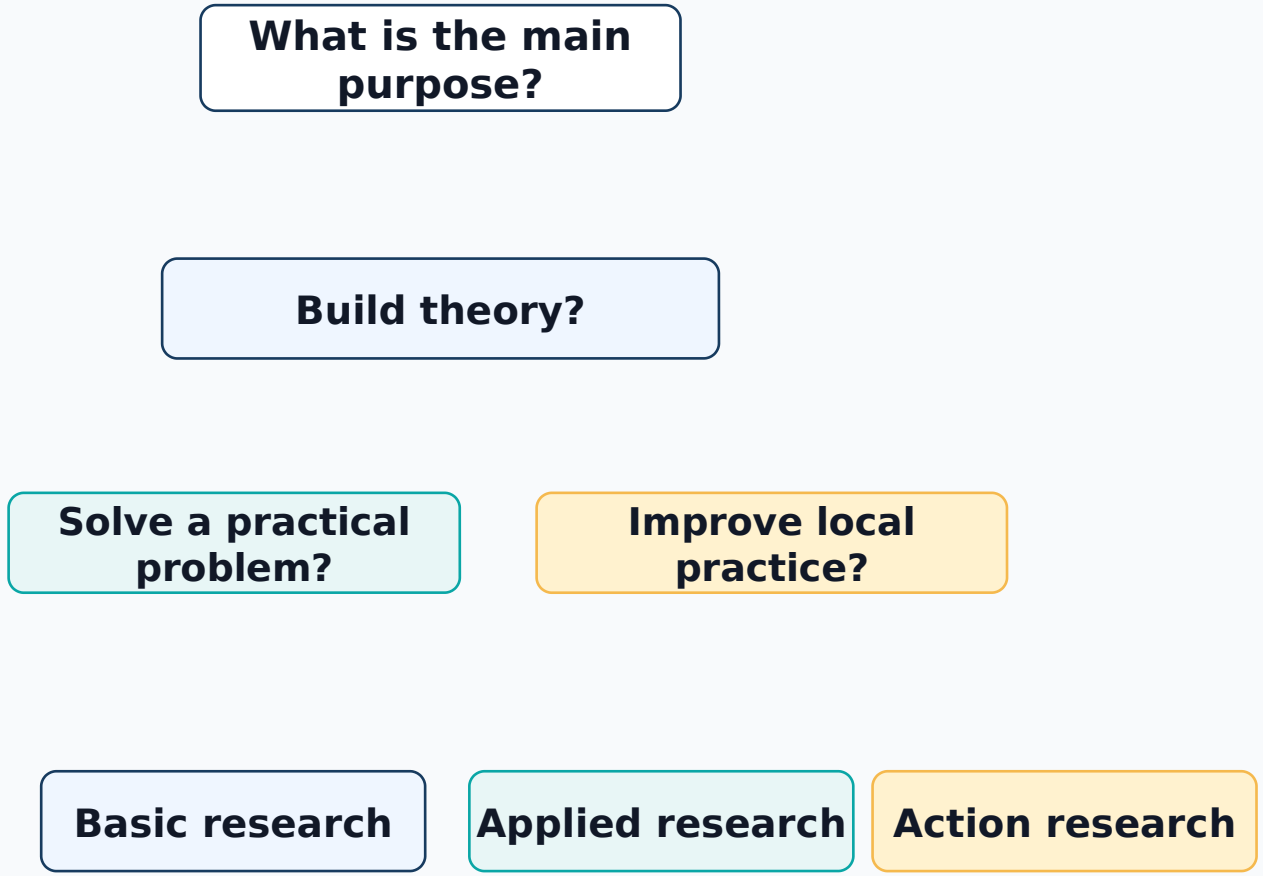


- A theory-building question may require conceptual clarity and strong internal logic.
- A problem-solving question may require stakeholder relevance and decision-ready findings.
- A practice-improvement question may require participation, reflection, and local feedback.

Step-by-Step: Choosing the Research Type

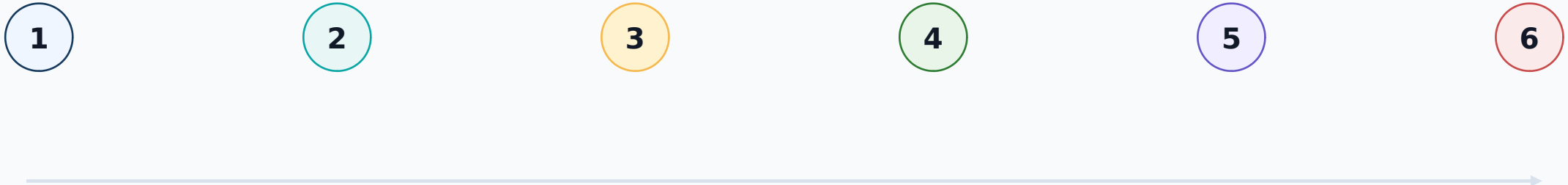
PROCESS

1. State the topic and the research problem in one clear sentence.
2. Ask what the main purpose is: knowledge, solution, or local improvement.
3. Identify who will use the findings and what decision or understanding they need.
4. Choose the type that best matches the dominant purpose.
5. Revise the research question so that it clearly reflects the selected purpose.



Step-by-Step: Conducting a Purpose-Aligned Study

PROCESS



Clarify purpose

knowledge, solution, or improvement

Write question

align wording with purpose

Select design

experiment, survey, interview, case, evaluation

Collect data

choose valid sources and instruments

Analyze evidence

match analysis to data and question

Report usefully

theory, recommendation, or action plan

Research quality improves when purpose, question, method, and reporting are aligned.

Practical Examples Across Disciplines

EXAMPLES

Discipline	Basic research	Applied research	Action research
Social sciences	How trust develops in social networks	How a community program affects civic participation	Residents co-design steps to improve local participation
Business	How leadership style influences motivation	Which retention strategy lowers employee turnover	A team tests and reflects on a new feedback process
Education	How metacognition supports learning	Which tutoring model improves exam performance	A teacher cycles through lesson changes and student feedback
Health sciences	How stress affects immune response	Which reminder system improves medication adherence	Clinic staff test a workflow to reduce missed appointments
Psychology	How emotion regulation develops	Which therapy protocol improves anxiety symptoms	Counselors refine a support group using participant feedback
IT	How users form trust in AI systems	Which interface reduces user errors	Developers and users improve a dashboard through cycles

Detailed Research Scenario

SCENARIO

Example: Improving first-year university attendance.

Research topic	Improving attendance among first-year undergraduate students.
Problem	A department observes repeated absences in introductory research methods classes.
Question	How does an early-alert mentoring intervention affect attendance and student engagement?
Participants	First-year students enrolled in two sections of a research methods course.
Data collection	Attendance records, short student surveys, and focus group reflections.
Analysis	Compare attendance before and after the intervention; summarize survey and focus group themes.
Interpretation	If attendance and engagement improve, the department may revise advising and course support practices.

Best classification: Applied + Action Research

Applied because it addresses a practical institutional problem; action-oriented because instructors can use cycles of planning, action, observation, and reflection.

Advantages of Basic Research

ADVANTAGES

Builds deep understanding

Explains causes, mechanisms, relationships, and theories that may support many future studies.

Improves conceptual clarity

Helps define constructs, variables, models, assumptions, and relationships.

Strengthens academic knowledge

Contributes to literature, theory development, and scholarly debate.

Supports rigorous testing

Allows careful testing of hypotheses under controlled or analytically precise conditions.

Creates long-term value

Findings may later lead to new technologies, policies, interventions, or methods.

Seeds future applications

Applied and action research often depend on theories built through basic research.

Advantages of Applied and Action Research

ADVANTAGES

Applied research strengths

- Provides evidence for practical decisions and policy choices.
- Can improve products, services, programs, and interventions.
- Often has clear value for organizations, communities, or professional fields.
- Connects academic knowledge with real-world needs.

Action research strengths

- Encourages participation, reflection, and practitioner ownership.
- Produces immediate improvements in a local context.
- Builds capacity among teachers, clinicians, managers, or community members.
- Supports continuous learning through cycles of action and evidence.

Limitations and Challenges

LIMITATIONS

Type	Common limitations	How to reduce the problem
Basic research	May seem distant from immediate practice; findings can be abstract.	Explain theoretical contribution and possible long-term relevance.
Applied research	May be shaped by client, funder, or stakeholder expectations.	Maintain transparency, methodological rigor, and independence.
Action research	Local findings may not generalize broadly; researcher may be part of the setting.	Document context, reflect on bias, and provide thick description.
All three	Weak alignment between purpose, question, data, and analysis.	Use a clear research design map before data collection.

A limitation is not a failure; it is a boundary that must be acknowledged honestly.

Common Mistakes by Students and Beginning Researchers

COMMON MISTAKES

- Treating basic, applied, and action research as levels of quality instead of differences in purpose.
- Calling a study “applied” without identifying the practical problem or intended users.
- Calling a study “action research” without participation, action, reflection, or cycles.
- Writing a research question that does not match the claimed research type.
- Ignoring ethical issues because the study seems small or local.
- Assuming action research does not need systematic data collection and analysis.
- Overgeneralizing findings from a narrow local action research project.
- Using too much theory in an applied study but not translating it into decisions.

Check alignment: purpose → question → method → evidence → output.

Best Practices

1. **Start with purpose**
   Identify whether the dominant aim is knowledge, solution, or local improvement.

2. **Use precise wording**
   Write research questions that clearly signal the intended type of inquiry.

3. **Align methods**
   Match sampling, instruments, and analysis to the question and expected output.

4. **Include stakeholders carefully**
   In applied and action research, clarify roles, expectations, consent, and boundaries.

5. **Document context**
   Explain the setting so readers can judge transferability and relevance.

6. **Report honestly**
   Separate evidence-based findings from recommendations, assumptions, and opinions.

Best practice: make the purpose visible in the title, introduction, research question, and conclusion.

Ethical Considerations

ETHICS

Ethical issue	Why it matters	Good practice
Informed consent	Participants should understand the study and their rights.	Use clear consent information and voluntary participation.
Confidentiality	Local or organizational studies may make people identifiable.	Remove identifiers and report carefully.
Power relationships	Teachers, managers, or clinicians may have authority over participants.	Reduce pressure and separate research from assessment or employment decisions.
Bias and role conflict	Action researchers may be both practitioner and researcher.	Use reflexive notes, peer review, and transparent documentation.
Academic integrity	All types require honest reporting, citation, and data handling.	Avoid plagiarism, fabrication, selective reporting, and unsupported claims.

Activity: Classify and Redesign a Research Idea

ACTIVITY

Activity objective

Help students classify research ideas by purpose and improve the alignment between problem, question, and expected output.

Instructions

1. In pairs, choose one research topic from your discipline.
2. Write three versions of the research question: basic, applied, and action research.
3. Identify the intended users of each version.
4. Decide which version is most feasible for a semester project.
5. Share one version with the class and explain why it fits the selected type.

Expected outcome

Students will produce three purpose-aligned research questions and justify the most appropriate type for their study context.

Discussion Questions

DISCUSSION

1. Can a study be both basic and applied? Give an example.
2. Why might a university fund basic research even when there is no immediate practical output?
3. What makes action research different from simply changing a practice?
4. How can stakeholder involvement improve or weaken applied research?
5. When should researchers avoid generalizing action research findings?
6. Which type of research is most suitable for your own thesis or project? Why?
7. How should researchers manage power relationships in classroom or workplace research?
8. What evidence would convince you that a local improvement actually worked?

Knowledge Check: Questions 1–5

KNOWLEDGE CHECK

1. Which type of research primarily aims to build theory or expand knowledge?
2. A company studies why customers cancel subscriptions and tests solutions. Is this mainly basic, applied, or action research?
3. Name one feature that must be present for a study to be considered action research.
4. True or false: Applied research does not need theory because it focuses on real-world problems.
5. Which research purpose is most closely linked to local cycles of planning, acting, observing, and reflecting?

Tip: Focus on the purpose and intended use of findings.

Knowledge Check: Questions 6–10

KNOWLEDGE CHECK

1. A biology study examines how a cellular process works, without an immediate treatment goal. Which type is it?
2. Write one applied research question related to education, health, business, or technology.
3. Why should action researchers document context carefully?
4. Which ethical issue is especially important when a teacher studies students in their own class?
5. Fill in the blank: Research purpose should align with the research question, methods, analysis, and ____.

Answer key is on the next slide.

Answer Key

KNOWLEDGE CHECK

#	Correct answer / sample answer
1	Basic research.
2	Applied research, because it addresses a practical business problem and tests solutions.
3	Participation, action, reflection, local improvement, or cyclical inquiry.
4	False. Applied research should still be informed by theory and prior evidence.
5	Action research.
6	Basic research.
7	Example: Which mentoring program improves first-year student attendance?
8	Because local setting details help readers judge transferability and limits.
9	Power relationship, informed consent, confidentiality, and voluntary participation.
10	Reporting / interpretation / use of findings.

Key Takeaways

TAKEAWAYS

★ **Research type depends on purpose**

Basic, applied, and action research are classified mainly by why the study is conducted.

★ **Basic research builds knowledge**

It aims to explain, theorize, and deepen understanding, often for long-term scholarly value.

★ **Applied research solves problems**

It uses evidence to guide practical decisions, programs, policies, products, or interventions.

★ **Action research improves practice**

It is participatory, local, reflective, and often cyclical.

★ **Alignment is essential**

The purpose, question, method, analysis, and output should fit together logically.

★ **Ethics apply to every type**

Consent, confidentiality, transparency, and honest reporting are essential.

Conclusion

CONCLUSION

Basic, applied, and action research are three important ways to understand the purpose of a study. Basic research expands knowledge and theory; applied research uses evidence to solve practical problems; and action research helps practitioners and participants improve local practice through systematic cycles of action and reflection.

Strong research begins with a clear purpose and ends with findings that match that purpose.

When students can explain the purpose of their research, they can make better methodological choices, communicate their contribution clearly, and avoid confusion between theory-building, problem-solving, and local improvement.

References (APA 7th Edition) — I

REFERENCES

• Creswell, J. W., & Creswell, J. D. (2018). Research design: Qualitative, quantitative, and mixed methods approaches (5th ed.). SAGE Publications.
• Greenwood, D. J., & Levin, M. (2007). Introduction to action research: Social research for social change (2nd ed.). SAGE Publications.
• Lewin, K. (1946). Action research and minority problems. Journal of Social Issues, 2(4), 34–46.
• Mertler, C. A. (2020). Action research: Improving schools and empowering educators (6th ed.). SAGE Publications.

References (APA 7th Edition) — II

REFERENCES

• OECD. (2015). Frascati manual 2015: Guidelines for collecting and reporting data on research and experimental development. OECD Publishing.
• Patton, M. Q. (2015). Qualitative research & evaluation methods: Integrating theory and practice (4th ed.). SAGE Publications.
• Robson, C., & McCartan, K. (2016). Real world research (4th ed.). John Wiley & Sons.
• Saunders, M., Lewis, P., & Thornhill, A. (2019). Research methods for business students (8th ed.). Pearson.
• Stringer, E. T. (2014). Action research (4th ed.). SAGE Publications.

Thank You

Author: Muhammad Hassan
Website: ResearchMethod.net

Visit ResearchMethod.net for research guides, templates, lecture slides, examples, and academic resources.